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Symptoms

By Mayo Clinic Staff

Doctors categorize Chiari malformation into three types, depending on the anatomy of the brain tissue that is displaced into the spinal canal, and whether developmental abnormalities of the brain or spine are present.

Many people with Chiari malformation have no signs or symptoms and don't need treatment. Their condition is detected only when tests are performed for unrelated disorders. However, depending on the type and severity, Chiari malformation can cause a number of problems.

The more common types of Chiari malformation are:

- Type I
- Type II

In Chiari malformation type I, signs and symptoms usually appear during late childhood or adulthood.

Chiari malformation type II is usually noted by ultrasound during pregnancy. It may also be diagnosed after birth or in early infancy.

Although these types are less serious than the more rare pediatric form, type III, signs and symptoms still can be life disrupting.

Chiari malformation type I

Headaches, often severe, are the classic symptom of Chiari malformation. They generally occur after sudden coughing, sneezing or straining. People with Chiari malformation type I can also experience:

- Neck pain
- Unsteady gait (problems with balance)
- Poor hand coordination (fine motor skills)
- Numbness and tingling of the hands and feet

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Headaches and ringing in the ears and feet

- Dizziness
- Difficulty swallowing, sometimes accompanied by gagging, choking and vomiting
- Vision problems (blurred or double vision)
- Speech problems, such as hoarseness

Less often, people with Chiari malformation may experience:

- Ringing or buzzing in the ears (tinnitus)
- Weakness
- Slow heart rhythm
- Curvature of the spine (scoliosis) related to spinal cord impairment
- Abnormal breathing, such as central sleep apnea, characterized by periods of breathing cessation during sleep

## Chiari malformation type II

In Chiari malformation type II, a greater amount of tissue extends into the spinal canal compared with Chiari malformation type I.

The signs and symptoms can include those related to a form of spina bifida called myelomeningocele that nearly always accompanies Chiari malformation type II. In myelomeningocele, the backbone and the spinal canal haven't closed properly before birth.

Symptoms may include:

- Changes in breathing pattern
- Swallowing problems, such as gagging
- Quick downward eye movements
- Weakness in arms

## Chiari malformation type III

In one of the most severe types of the condition, Chiari malformation type III, a portion of the lower back part of the brain (cerebellum) or the brainstem extends through an abnormal opening in the back of the skull. This form of Chiari malformation is diagnosed at birth or by an ultrasound during pregnancy.

This type of Chiari malformation has a higher mortality rate and may also cause neurological problems.

## When to see a doctor

If you or your child has any of the signs and symptoms that may be associated with Chiari malformation, see your doctor for an evaluation.

Because many symptoms of Chiari malformation can also be associated with other disorders, a thorough medical evaluation is important.

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